June 1, 1937. C. NELSON 2,082,177

REFLANGING ATTACHMENT FOR CAN SEALERS

Filed July 8, 1935 2 Sheets-Sheet 1

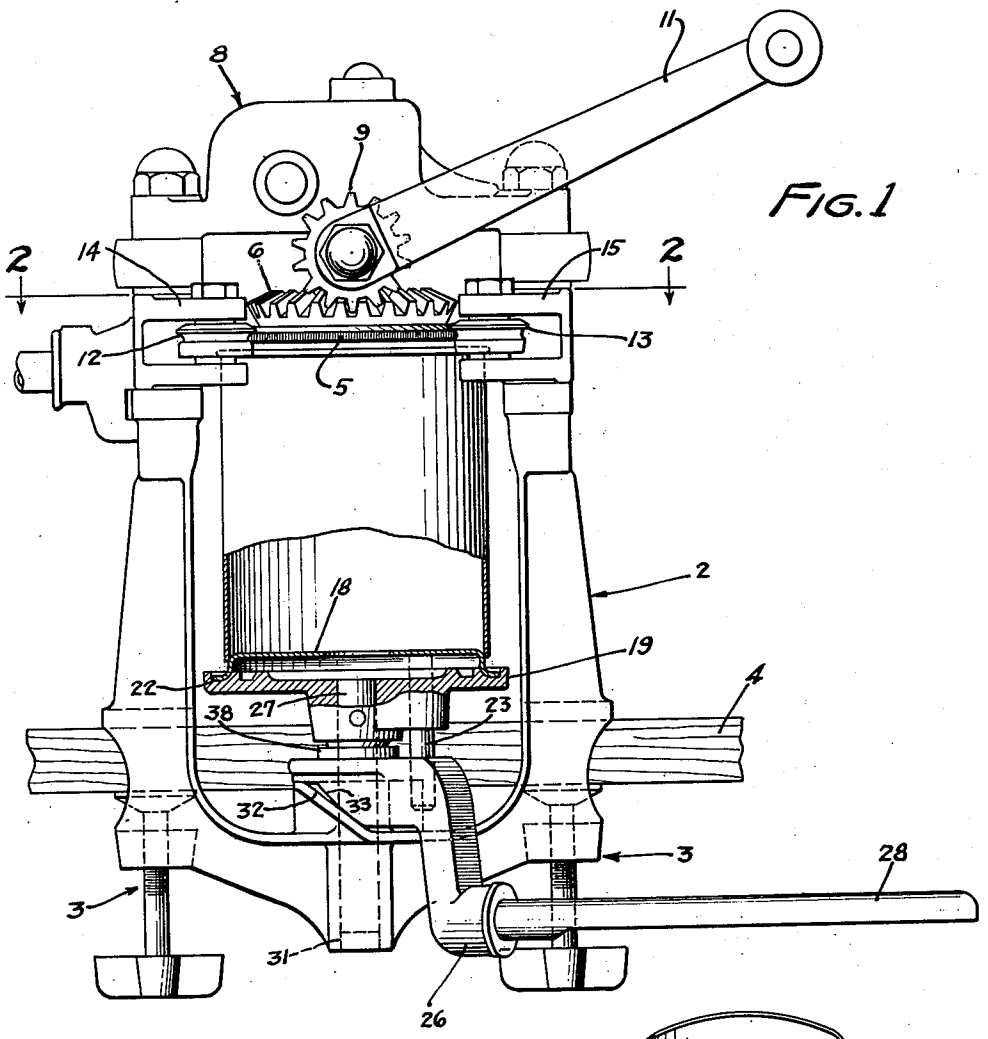


FIG. 1

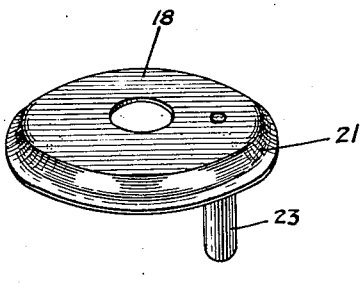


FIG. 7

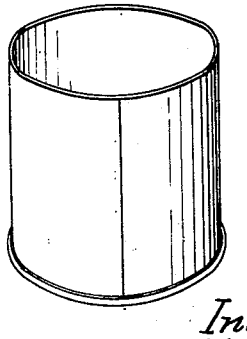


FIG. 4

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REFLANGING ATTACHMENT FOR CAN SEALERS

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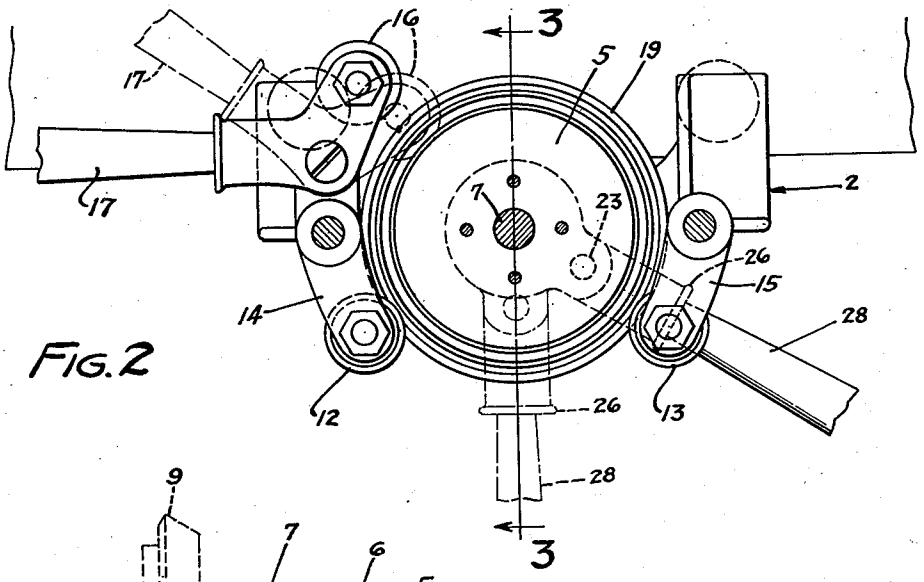


FIG. 2

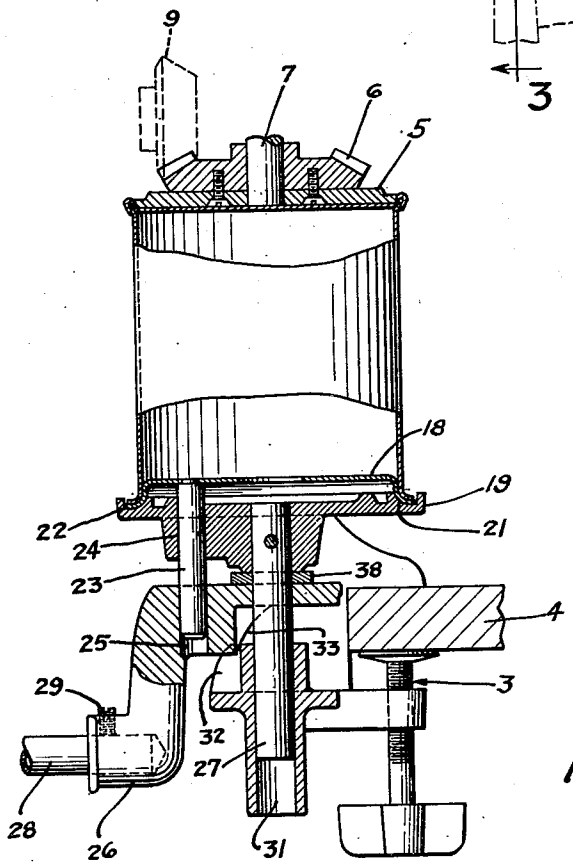


FIG. 3

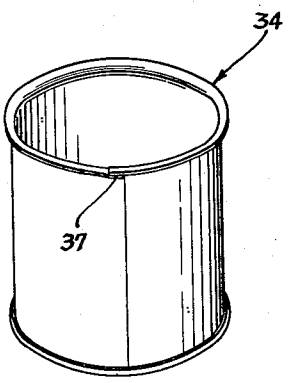


FIG. 5

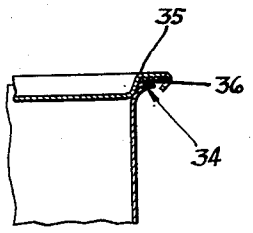


FIG. 6

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REFLANGING ATTACHMENT FOR CAN SEALERS

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Application July 8, 1935, Serial No. 30,346

1 Claim. (Cl. 113—1)

This invention relates to new and useful improvements in can sealers, and more particularly to an attachment adapted for use in connection with a can sealer, whereby the latter may be utilized for reflanging used cans; that is, cans which have previously been opened by severing the metal of the body of the can directly below the closure to thereby remove the latter therefrom, and whereby the can is rendered fit for further use.

A further object is to provide a can sealer comprising upper and lower chuck plates between which the can is supported, and a reflanging plate being demountably supported upon the lower chuck plate and having a portion adapted to be inserted into the open unflanged end of the can and surrounded by a concaved, annular reflanging surface adapted, upon rotation of the can, to outwardly flare the edge thereof and form a flange adapted to receive a suitable closure.

A further object is to provide a simple and inexpensive attachment for can sealers, whereby in addition to sealing cans, the sealer may also be used for reflanging cans after they have previously been opened to permit removal of the contents therefrom.

Other objects of the invention reside in the specific construction of the lower chuck plate, whereby the novel reflanging plate may be conveniently attached thereto; in the means for locking the reflanging plate and the chuck plate against rotation, when the can is rotated with respect thereto in the operation of reflanging the upper edge thereof; and, in the simple and inexpensive construction of the reflanging plate, whereby it may be quickly attached to an ordinary can sealer to thereby adapt the same for reflanging the opened ends of cans which have previously been used.

Other objects of the invention will appear from the following description and accompanying drawings and will be pointed out in the annexed claim.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown as various changes may be made within the scope of the claim which follows.

In the drawings:

Figure 1 is an elevational view of a can sealer showing the invention embodied in the construction thereof;

Figure 2 is a sectional plan view substantially on the line 2—2 of Figure 1, with some of the parts omitted;

Figure 3 is a sectional elevation on the line 3—3 of Figure 2, showing how the reflanging plate is supported on the lower chuck plate;

Figure 4 is a perspective view showing a can after the usual top or closure has been removed therefrom;

Figure 5 is a view similar to Figure 4, showing the upper edge of the can outwardly flared to provide a seat for a closure;

Figure 6 is a detail sectional view showing a closure supported upon the reflanged open end of the can; and

Figure 7 is a perspective view of the reflanging plate removed from the can sealer.

In the selected embodiment of the invention here shown, there is illustrated in Figure 1, for purposes of disclosure, a can sealer comprising a frame, generally indicated by the numeral 2, and having suitable clamping elements 3 whereby it may be conveniently attached to a suitable support, such as a table top 4.

An upper chuck plate 5 is shown secured to a suitable gear wheel 6 mounted upon a shaft 7 supported in suitable bearings provided in a gear housing, generally indicated by the numeral 8. A pinion 9 meshes with the bevel gear 6 and has an operating crank 11, whereby the gear 6 and chuck plate 5 may be driven. The pinion 9 is supported upon a suitable shaft, not shown, supported in the gear housing 8.

Suitable seaming rollers 12 and 13 are supported upon arms 14 and 15, respectively, pivotally mounted in the upper portion of the frame 2, as best shown in Figure 2. Mechanism, not shown, is provided for alternately moving the seaming rollers into and out of seaming engagement with the can closure, in the usual manner, when the crank 11 is operated. This mechanism forms no part of the present invention, and it is therefore believed unnecessary to herein describe the same in detail. A suitable cutoff roller 16 is also pivotally mounted in the upper portion of the frame of the sealer and has an operating lever 17, whereby it may be manually moved into operative engagement with the upper wall portion of a sealed can, thereby to cut the metal to remove the closure from the can.

An important feature of the present invention resides in the means provided, whereby cans which have been opened, may be reflanged to receive a new closure, whereby they are rendered fit for further use.

The means provided for thus reflanging used

open cans is shown consisting of a reflanging plate, generally indicated by the numeral 18, which is shown detachably supported upon the lower chuck plate 19 of the can sealer, as clearly illustrated in Figures 1 and 2. The reflanging plate 18 has its marginal edge shaped as shown at 21 in Figures 1, 2 and 7, whereby a concaved, annular seat is provided adapted to receive and outwardly flare the edge of the can, and the raised portion 20 of the reflanging plate is adapted to enter the mouth of the open can, as best shown in Figure 3. The outwardly turned marginal flange of the reflanging plate 18 is adapted to be seated in an annular groove 22 in the upper face of the chuck plate 19. A pin or stud 23 has one end secured in the reflanging plate and is adapted to be received in an aperture 24 provided in the chuck plate 19, and an aperture 25 provided in an arm 26, rotatably mounted upon the stub shaft 27 of the lower chuck plate 19. The aperture 25 is alined with the aperture 24 so that the pin 23 may readily be inserted through said apertures, as illustrated in Figure 3, thereby to secure the chuck plate 19 to the lever 26, as will readily be understood. A suitable cam adjusting lever 28 is shown removably secured in the arm 26 by a suitable set screw 29.

The shaft 27 is rotatably supported in a suitable bearing 31 provided in the lower portion of the machine frame, and is adapted for vertical movement therein by suitable cams 32 and 33 provided in the lower portion of the machine frame and the arm 26, respectively, as best shown in Figure 1. These cams cooperate to elevate the lower chuck plate 19 and therefore the reflanging plate 18, when the lever 28 is oscillated in a direction towards the left, when viewed as shown in Figure 1.

In the operation of reflanging a can, the empty can is placed in an inverted position between the chuck plates 5 and 19, with its open end engaging the raised portion 20 of the reflanging plate 18, as best shown in Figure 1. The operator then rotates the crank 11, and, at the same time, gradually moves the can adjusting lever 28 to the left, whereby the lower chuck plate, bearing the reflanging plate 18, is gradually moved upwardly, with the result that the marginal edge of the can body is forced downwardly over the annular concaved surface 21 of the reflanging plate, and is outwardly flared, as illustrated in Figure 3. It is to be understood that the can is constantly rotated during the reflanging operation, whereby the marginal edge of the can is gradually expanded and stretched into the shape shown in Figure 3, until an outwardly turned flange is provided on the can body, as shown at 34 in Figures 5 and 6, adapted to receive a suitable closure 35 of ordinary construction. A suitable gasket 36 is shown interposed between the flange 34 of the can body and the closure 35.

I have found that by constantly rotating the can, as the reflanging plate is thrust upwardly by manipulation of the lever 28, the flange 34 will be accurately formed, regardless of the usual seam 37 provided in the body of the can, as clearly illustrated in Figure 5. The operation is very simple and may readily be performed by an inexperienced person, the reflanging plate and chuck plates of the can sealer being so constructed that the can cannot readily be inaccurately positioned between the chuck plates 5 and 19.

In Figure 3 it will be noted that a spacing washer 38 is shown interposed between the upper surface of the cam arm 25, and the lower face of the hub of the chuck plate 19. This spacing washer serves to accurately space the chuck plates 5 and 19 apart, and to compensate for the shortening of the can body, as a result of the closure having been removed therefrom.

When the operation of reflanging the can has been completed, the reflanging plate 18 may readily be removed from the lower chuck plate 19, whereby the can sealer is rendered operative to hermetically seal the flanged can.

The novel attachment herein disclosed thus provides means whereby an ordinary can sealer may be quickly converted into a machine for reflanging used cans, whereby such cans may be used over several times before they are finally discarded, thereby greatly economizing in the number of cans required, with a resultant economy in the canning operation. It is to be understood that each time a can is opened, a portion of the upper edge of the wall thereof is removed by the cutting roller 16, whereby the overall height of the can obviously becomes shorter. It is therefore, necessary to substitute spacing washers 38 of different thickness, depending upon the number of times the can has been opened and reflanged.

The reflanging plate 18 is so constructed that it may be used in connection with the lower chuck plate, without materially altering the construction thereof. The outer curved flange of the reflanging plate is received in the annular recess or seat provided in the chuck plate, and the pin 23 locks the reflanging plate to the chuck plate 19, and the latter to the cam arm 25, so that all of these parts rotate as a unit, when the cam adjusting lever 28 is operated. The reflanging plate 18 is, of course, furnished in different diameters, corresponding to the various sizes of cans, whereby the can sealer may be used for sealing and reflanging all standard sizes of cans.

I claim as my invention:

The combination with a can sealer comprising upper and lower chuck plates between which the can is supported, an arm supporting the lower chuck plate, and said lower chuck plate and arm having alined apertures therein, of a reflanging attachment comprising a reflanging plate having an outwardly flared marginal edge against which the edge of the open end of the can body is pressed to outwardly flare it to provide a flange for supporting the can closure, and said reflanging plate having a pin fixed thereto adapted to be received in the alined apertures in the lower chuck plate and said arm, thereby to lock the reflanging plate, lower chuck plate, and said arm together for movement as a unit, and whereby the reflanging plate is positively held against rotation, when the upper chuck plate is actuated to rotate the can.

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